

CLAIMS

1. A method for a Mobile Node to acquire a home address where the Mobile Node is located in a foreign network, characterized in that said home
5 address is acquired dynamically from a centralized server maintaining a pool of addresses.

2. A method according to claim 1, characterized in that a Home Agent allocates said address on behalf of the Mobile Node from the centralized server, using a unique identifier provided by the Mobile Node.

10 3. A method according to claim 2, characterized in that the Home Agent maintains the allocated address on behalf of the Mobile Node.

4. A method according to claim 3, characterized in that the Home Agent stops maintaining the lease when the Mobile Node de-register or when the Mobile Node's registration times out.

15 5. A method according to claim 1, characterized in that the centralized server uses the DHCP protocol.

6. A method according to claim 5, characterized in that the Home Agent allocate the address on behalf of the Mobile Node from the centralized DHCP server using the NAI provided by the Mobile Node as unique identifier in the client-
20 identifier option.

7. A method according to claim 6, characterized in that the Home Agent maintains the allocated address on behalf of the Mobile Node by renewing the lease when it is about to expire.

8. A method for a Mobile Node to acquire a home address where the
25 Mobile Node is located in its home network, characterized in that said Mobile Node

acquires the home address directly from a centralized pool of addresses using a unique identifier that it later can provide to a Home Agent.

9. A method according to claim 8, characterized in that the Mobile Node maintains and renews the lease while located in its home network.

5 10. A method according to claim 9, characterized in that the Mobile Node stops maintaining the lease when the Mobile Node moves to a visited network and registers with its home agent.

11. A method according to claim 10, characterized in that the Home Agent takes over the maintenance of the lease when the mobile registers with it
10 when moving out from its home network.

12. A method according to claim 8, characterized in that the centralized server uses the DHCP protocol.

13. A method according to claim 12, characterised in that the Mobile Node acquires the address directly from a centralized DHCP server using its NAI
15 as unique identifier in the client-identifier option.

14. A method according to claim 11, characterized in that the Home Agent takes over the maintenance of the lease by sending a DHCP request with the Mobile Node's NAI in the client-identifier option to the DHCP server when the mobile registers with it when moving out from its home network.

20 15. A method for a Mobile Node to acquire a Home Address while visiting a foreign network, characterized in that the Mobile Node send a registration request to its Home Agent, where it requests to receive a dynamically allocated address, that the Mobile Node identifies itself through a unique identifier, e.g. the NAI, that the home agent uses this unique identifier when sending an
25 address allocation request to a centralized server located in the home network of

the Mobile Node, that the Home Agent stores the information received from the server in a table in order to be able to maintain the lease, and that the allocated address is returned to the Mobile Node in the registration reply.

16. A method according to claim 15, characterized in that the Mobile
5 Node uses the address received in the registration reply as its home address, and that the home agent continues to maintain the lease towards the server handling the address pool as long as the Mobile Node updates its registration.

17. A method according to claim 15, characterized in that, when the
Mobile Node moves from the visited network to its home network, it will de-register
10 from the Home Agent, that, upon receiving a de-registration request, the Home Agent removes the entry for that address from its table and stops maintaining the lease towards the server, and that the Mobile Node takes over the maintenance of the leased address.

18. A method according to claim 17, characterized in that the Mobile
15 Node takes over the maintenance of the lease by the client sending a request to renew the lease using the same unique identifier to the DHCP server, e.g. in the case of DHCP the NAI will be put in the client-identifier option.

19. A method for a Mobile Node to acquire a home address where the
Mobile Node that starts when located on its home network, characterized in that
20 the Mobile Node hears the advertisements from its home agent without sending a registration request to the Home Agent, that Mobile Node acquire its home address by sending an address allocation request to the centralized server of its home network using a unique identifier, and that the server allocates an address and send it back to the Mobile Node.

20. A method according to claim 19, characterized in that, if said server is a DHCP server, the Mobile Node sends a DHCP discover message to determine where the server is, that, in response, it gets a suggestion on an address, and that the Mobile Node request to allocate the suggested address by
5 sending a DHCP request.

21. A method according to claim 19, characterized in that, when the Mobile Node moves from its home network to a visited network where it can no longer maintain the lease with the centralized server, the Mobile Node will request dynamic allocation of home address in its registration request to inform the Home
10 Agent to take over the maintenance, that, included in this registration request, the Mobile Node sends the same unique identifier as used when allocating the address in its home network, that the home agent will requests an address from the centralized server using the same identifier, that the server allocates the same address as the Mobile Node had allocated when located in its home network, and
15 that the Home Agent thereafter maintains the lease as long as the Mobile Node updates its registration.
